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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/707,171

11/25/2003

Anthony R. Bonaccio

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1170

30449

7590

04/14/2005

SCHMEISER, OLSEN + WATTS  
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EXAMINER

LAM, TUAN THIEU

ART UNIT

PAPER NUMBER

2816

DATE MAILED: 04/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

34

<b>Office Action Summary</b>	Application No. 10/707,171	Applicant(s) BONACCIO ET AL	
	Examiner Tuan T. Lam	Art Unit 2816	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 08 March 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3,7-11 and 15-20 is/are rejected.
- 7) ☒ Claim(s) 4-6 and 12-14 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11/25/2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

This is a response to the amendment filed 3/8/2005. Claims 1-20 are pending and are under examination.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3, 7-11 and 15-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gauthier et al. (USP 6,781,355) in view of Cooper et al. (USP 5,049,841).

Figure 5 of Gauthier et al. shows a structure comprising an IC power distribution circuit (502, 504, 506, 508), a variable/tunable resistor (514 shown in figure 9) connected in series with the circuit, a controller (512) being electrically controlling the tunable resistor to reduce the transient voltage variation (power supply resonance) across the circuit.

The difference between Gauthier et al. and the present invention is that Gauthier et al. does not show the detailed structure of the variable resistor (902) as called for in claims 1, 9 and 17. However, Gauthier et al. suggests that the variable resistor can be a low power consumption variable resistor circuit. Figure 8 of Cooper et al. shows a variable resistor circuit (R28, T7) having low power consumption. The variable resistor circuit comprises a resistor (R28) and a plurality of switches (T7) coupled in parallel with the resistor. Therefore, it would have been obvious to a person skilled in the art at the time the invention was made to use Cooper et al.'s

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variable resistor circuit in place Gauthier et al.'s damping circuit for the purpose of reducing power consumption.

Regarding claims 2 and 10, the combination of Gauthier et al. and Cooper et al. is capable of closing the switch at some time after the controller initially opens the electrical switch.

Regarding claims 3, 11 and 20, the combination of Gauthier et al. and Cooper et al. shows a plurality of switches.

Regarding claims 7 and 15, the combination of Gauthier et al. and Cooper et al. shows the electrical switch is a transistor.

Regarding claims 8, 16 and 19, wherein the resistance of the electrical switch, while being closed, is substantially smaller than the resistor (on resistance of the FET is about few ohms), and the resistance of the electrical switch, while being open (open circuit has large resistance), is substantially larger than that of the resistor.

3. Claims 1-3, 7-11 and 15-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gauthier et al. (USP 6,781,355) in view of Iwamura et al. (USP 4,860,148).

Figure 5 of Gauthier et al. shows a structure comprising an IC power distribution circuit (502, 504, 506, 508), a variable/tunable resistor (514 shown in figure 9) connected in series with the circuit, a controller (512) being electrically controlling the tunable resistor to reduce the transient voltage variation (power supply resonance) across the circuit.

The difference between Gauthier et al. and the present invention is that Gauthier et al. does not show the detailed structure of the variable resistor (902) as called for in claims 1, 9 and 17. However, Gauthier et al. suggests that the variable resistor can be a low power consumption

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variable resistor circuit. Figure 2 and 3a-3c of Iwamura et al. shows a variable resistor circuit (R28, T7) having low power consumption. The variable resistor circuit comprises a resistor (R1) and a plurality of switches (15 shown in figure 3c) coupled in parallel with the resistor. Therefore, it would have been obvious to a person skilled in the art at the time the invention was made to use Iwamura et al.'s variable resistor circuit in place Gauthier et al.'s damping circuit for the purpose of reducing power consumption.

Regarding claims 2 and 10, the combination of Gauthier et al. and Iwamura et al. is capable of closing the switch at some time after the controller initially opens the electrical switch.

Regarding claims 3, 11 and 20, the combination of Gauthier et al. and Iwamura et al. shows a plurality of switches (figure 3c).

Regarding claims 7 and 15, the combination of Gauthier et al. and Iwamura et al. shows the electrical switch is a transistor.

Regarding claims 8, 16 and 19, wherein the resistance of the electrical switch, while being closed, is substantially smaller than the resistor (on resistance of the FET is about few ohms), and the resistance of the electrical switch, while being open (open circuit has large resistance), is substantially larger than that of the resistor.

#### ***Response to Arguments***

4. Applicant's arguments filed 3/8/2005 have been fully considered but they are not persuasive.

Regarding the rejection of claims 1-3, 7-11 and 15-20 as being unpatentable over

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Gauthier et al. in view of Cooper et al., applicant argues that Gauthier et al.'s resonance detector (512) is configured to close the damping element (514) so as to reduce or dampen the power supply resonance condition. This is in contrast with claim 1 calling for opening the electrical switch to reduce transient voltage variation across circuit. The Examiner respectfully traverses the above arguments. Gauthier suggests that the damping element is activated when there is a power supply resonance. The activation (closing the electrical switch) creates a resistance between the power supply lines thus damping the power supply resonance. The resistance value of the damping element can be increased in response to the resonance of the power supply (column 6, lines 18-41). The substitution of Gauthier's damping element with Cooper et al.'s variable resistor circuit provides a reduction in power consumption benefits (last Office action page 2). One skilled in the art would have been recognized that to increase the resistance value of Cooper et al.'s variable resistor circuit, the electrical switches (T71, T72, T73) must be opened. Therefore, increasing (to close the electrical switch of damping element) the resistance value of the damping element of Gauthier is to open the electrical switches of Cooper et al.'s variable resistor circuit. Therefore, the limitations of "open the electrical switch" in claims 1, 9 and 17 are fully met by the combination of Gauthier et al. and Cooper et al. references.

Regarding the rejection of claims 1-3, 7-11 and 15-20 as being unpatentable over Gauthier et al. in view of Iwamura et al., applicant argues that Gauthier et al.'s resonance detector (512) is configured to close the damping element (514) so as to reduce or dampen the power supply resonance condition. This is in contrast with claim 1 calling for opening the electrical switch to reduce transient voltage variation across circuit. The Examiner respectfully traverses the above arguments. Gauthier suggests that the damping element is activated when

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there is a power supply resonance. The activation (closing the electrical switch) creates a resistance between the power supply lines thus damping the power supply resonance. The resistance value of the damping element can be increased in response to the resonance of the power supply (column 6, lines 18-41). The substitution of Gauthier's damping element with Cooper et al.'s variable resistor circuit provides a reduction in power consumption benefits (last Office action page 2). One skilled in the art would have been recognized that to increase the resistance value of Iwamura et al.'s variable resistor circuit, the electrical switches (15 of figure 3c) must be opened. Therefore, increasing (to close the electrical switch of damping element) the resistance value of the damping element of Gauthier is to open the electrical switches of Iwamura et al.' variable resistor circuit. Therefore, the limitations of "open the electrical switch" in claims 1, 9 and 17 are fully met by the combination of Gauthier et al. and Iwamura et al. references.

Applicant also argues that Examiner fails to provide a legal argument as to why a person skilled in the art would modify Gauthier et al. in view of Iwamura is not persuasive. Gauthier et al. requires a variable resistor circuit whose resistance value can be varied in response to different operational conditions. Iwamura et al. teaches a low power consumption variable resistor circuit whose resistance value is varied under different operation conditions. One skilled in the art would have recognized the benefits of Iwamura et al.'s variable resistor circuit. Therefore, it would have been obvious to a person skilled in the art at the time the invention was made to replace Gauthier et al.'s variable resistor circuit with Iwamura et al.'s variable resistor circuit for the purpose of reducing power consumption.

*Allowable Subject Matter*

5. Claims 4-6 and 12-14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

*Conclusion*

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan T. Lam whose telephone number is 571-272-1744. The examiner can normally be reached on Monday to Friday (7:30 am to 6:00pm).



If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, TIMOTHY P CALLAHAN can be reached on 571-272-1740. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'Tuan T. Lam', with a long horizontal flourish extending to the right.

Tuan T. Lam  
Primary Examiner  
Art Unit 2816

4/12/2005